ABSTRACT

Linking the synthetically-derived T helper epitope, PADRE, or one *of* several tetanus T_H epitopes to the immunodominant HLA A*0201-restricted CTL epitope from CMV-pp65 in a fusion peptide caused robust cytotoxic cellular immune responses in HLA A*0201/K^b transgenic mice. The fusion peptides are immunogenic when administered in saline solution by either subcutaneous or intranasal routes. CpG-containing single-stranded DNA (ss-ODN), when added to the fusion peptides as an adjuvant, dramatically upregulated immune recognition by either route. Target cells which either expressed full length pp65 protein from vaccinia viruses or were sensitized with the CTL epitope encoded in the vaccine were recognized by splenic effectors from immunized animals. T_H-CTL epitope fusion peptides in combination with CpG ss-ODN (DNA adjuvant) represents a strategy useful for parenteral or mucosal delivery of vaccines in a safe and effective manner that has applicability for control or prophylaxis of infectious disease, especially in situations such as vaccination of donors or recipients of HCT, where highly inflammatory adjuvants are not desired.